

## International Medical Informatics Association Working Group Technology Assessment & Quality Development

**Date: June 2016**

**Website of the WG:** (shared with/hosted by the EFMI WG Evaluation) on  
<http://iig.umat.ac.uk/efmi/>

### **Co-Chairs (2014- )**

Professor Andrew Georgiou  
Centre for Health Systems & Safety  
Research  
Australian Institute of Health Innovation  
6/75 Talavera Road  
Macquarie University 2109, Australia  
Email: [andrew.georgiou@mq.edu.au](mailto:andrew.georgiou@mq.edu.au)

Associate Professor Farah Magrabi  
Centre for Health Informatics  
Australian Institute of Health  
Innovation  
6/75 Talavera Road  
Macquarie University 2109, Australia  
Email: [farah.magrabi@mq.edu.au](mailto:farah.magrabi@mq.edu.au)

### **Working group members:**

**Elske Ammenwerth** Director of the Institute for Health Information Systems,  
University for Health Sciences, Medical Informatics and Technology, Hall in Tyrol,  
Austria.

**Nicolette de Keizer** Professor, Department of Medical Informatics, Academic  
Medical Center, Amsterdam, The Netherlands

**Andrew Georgiou** Professor, Centre for Health Systems & Safety Research,  
Australian Institute of Health Innovation, Macquarie University Australia

**Hannele Hyppönen** Research Manager, National Institute for Health and Welfare,  
Finland

**Farah Magrabi** Associate Professor, Centre for Health Informatics, Australian  
Institute of Health Innovation, Macquarie University Australia

**Pirkko Nykänen** Professor University of Tampere, School of Information Sciences  
Center for Information and Systems, University of Tampere

**Michael Rigby** Emeritus Professor of Health Information Strategy, Keele University,  
United Kingdom

**Philip Scott** Senior Lecturer in Information Systems School of Computing,  
University of Portsmouth

**Jan Talmon** Consultant, Maastricht University, The Netherlands

### **Synopsis of Working Group report**

This report from the IMIA WG on Technology Assessment and Quality Development describes the WG's record of **international collaboration** in the areas of education, performance management, evidence-based health informatics and safety and quality. These activities **reinforce important developments in the WG's networks and participation** including with: IMIA working groups (e.g., European Federation of Medical Informatics Working Groups) and regional members of IMIA (e.g., Asia

Pacific Association of Medical Informatics and the American Medical Informatics Association). Key areas of success outlined in this report include: i) the publication of a book with IOS Press on *Evidence-Based Health Informatics* (edited by Ammenwerth E and Rigby M) as part of a **major international collaboration involving leading evidence-based health informatics researchers, practitioners and IMIA, EFMI and AMIA working groups**; and ii) the preparation of a position paper to the IMIA Yearbook on improving evaluation to address the unintended consequences of health information technology.

## 1. **Background** – Brief description of the WG/SIG mission, vision, and objective

The strategic **mission** of the working group is:

- To promote the necessity of a systematic evaluation of health information systems during their whole life cycle as a precondition for the better support of patient care.
- To promote theory and practice of evaluation of health information systems, taking into account approaches from a variety of scientific fields.
- To develop and promote methods and tools to support the systematic evaluation of the effects of health information systems on structure, process and outcome of patient care, and to give feedback to system builders how to alter their systems to improve effectiveness and to avoid negative effects.

We are convinced that the evaluation of health information systems demands a combined, multi-disciplinary (or even trans-disciplinary) as well as multi-method approach. Therefore, the **aims** of the Working Group (WG) are:

- to foster discussion between experts from informatics, medical informatics, economics, health care, health services research, clinical epidemiology, biometry, psychology, sociology, ethnography, organizational development, operations research and other evaluation fields, on an international level, and to encourage exchange on methodological issues between researchers from different traditions;
- to offer an opportunity to share knowledge with the aim of obtaining profitable cross-fertilization among different fields of expertise and especially between quantitative and qualitative research;
- to promote a combined research agenda to develop frameworks and toolkits for information systems evaluation, offering guidelines for an adequate combination of evaluation methods and tools;
- to discuss and clarify the networking needs for long-term evaluation research in medical informatics, and to promote combined research proposals at an international level.

## 2. **Achievement** - Events and projects conducted and publications completed

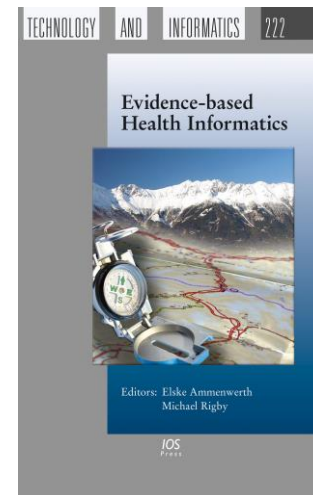
- The IMIA WG has **led a major international collaboration** to produce a book on *Evidence-Based Health Informatics* edited by **Ammenwerth E** and **Rigby M**.

The book is entitled, "Evidence-Based Health Informatics - Promoting Safety and Efficiency Through Scientific Methods and Ethical Policy", and has been published by IOS Press as part of the Studies in Health Technologies and Informatics series (Box 1). It is available as hard copy and as an open access e-book at <http://ebooks.iospress.nl/volume/evidence-based-health-informatics-promoting-safety-and-efficiency-through-scientific-methods-and-ethical-policy>.

The collaboration involves **IMIA, EFMI and AMIA Working Groups** and draws together contributions from key leaders, researchers and practitioners in the health informatics field.

The book addresses the need for better understanding of the importance of robust evidence to support health IT and to optimize investment in it; it gives insight into health IT evidence and evaluation as its primary source; and it promotes health informatics as an underpinning science demonstrating the same ethical rigour and proof of net benefit as is expected of other applied health technologies.

*Box 1: New book on Evidence-based Health Informatics produced by the WG in 2016*



- The IMIA WG undertook a significant working consultation and collaboration to submit the following contribution to the IMIA Yearbook:

**Magrabi F, Ammenwerth E, Hyppönen H, de Keizer N, Nykänen P, Rigby M, Scott P, Talmon J, Georgiou A.** Improving evaluation to address the unintended consequences of health information technology: a position paper from the Working Group on Technology Assessment & Quality Development. *IMIA Yearbook* 2016. (accepted 29 June 2016)

- Working group members were involved in the following workshops and panels for **MIE 2015 (Madrid, Spain)**:
  - **Ammenwerth E, Craven C, Georgiou A, de Keizer N, Mantas J.** Courses on Health IT Evaluation: Development of Recommendations. Medical Informatics Europe, Madrid, 2015. (Workshop)
  - **Aarts J, Kushniruk A, Borycki E, Beuscart-Zéphir M, Pelayo S, Magrabi F.** Designing for patient safety Medical Informatics Europe, Madrid, 2015. (Panel)
- Working group members were involved in the following workshops and panels for **Medinfo 2015 (Sao Paulo, Brazil)**:
  - **Scott P, de Keizer N, Georgiou A, Hyppönen H, Craven C, Rigby M.** Why evidence-based health informatics should have theoretical foundations: Exploring the implications for policy and evaluation Medinfo 2015, Sao Paolo (Workshop)

- Yu P, Gong Y, Moen A, **Georgiou A**, Alexander G. New Frontier of Health Informatics: Aged Care Informatics. Medinfo 2015, Sao Paolo (Workshop)
- **de Keizer N, Ammenwerth E**, Craven C, **Magrabi F**, Otero P, **Scott P**. Courses on Health IT Evaluation: Development of Recommendations Medinfo 2015, Sao Paolo (Workshop)
- **Magrabi F**, Sittig D, Nøhr C, Luna D. Health information technology: Addressing human factors to improve patient safety Medinfo 2015, Sao Paolo (Panel)
- Working group members were involved in the following panel for **AMIA 2015 (San Francisco, USA)**:
  - **Magrabi F**, Sittig DF, Scott J, Hron J (2015) Health information technology and large-scale adverse events. 2015 AMIA Symposium (panel)
- Working group members were involved in the submission of the following workshops, posters and panels for **MIE 2016 (Munich, Germany)**:
  - **Ammenwerth E, de Keizer NF**, Brender J, Craven C, Eisenstein E, **Georgiou A**, Khairat S, **Magrabi F**, Nykanen P, Otero P, **Rigby M, Scott P, Weir C**. Recommendations for Health IT Evaluation Training as a Key Prerequisite to Obtaining Evidence (poster)
  - **Ammenwerth E, de Keizer NF**, Haas P, Koch S. Online Learning in Health Informatics – Best Practices and Lessons Learnt (workshop)
  - We will participate in the meet-the-experts meeting to get novices to MIE introduced to our WG

### 3. Participation

- WG member Philip Scott as chair of the British Computer Society (BCS) Health programme committee in introduced the theme of evidence-based health informatics during the UK eHealth Week in 2016. The eHealth Week is an annual conference and trade exhibition organized jointly by the BCS Health group and HIMSS. Several sessions featured topics on the evidence-based health informatics theme and included notable international experts from the US (Prof Charles Friedman, University of Michigan), Australia (Prof Enrico Coeira, Macquarie University) and the UK (Prof Jeremy Wyatt, University of Southampton).
- WG member Prof Georgiou is contributing to the Royal College of Pathologists of Australia, Pathology Information, Terminology and Units Standardisation (PITUS) program, which will make a major international contribution to the improvements in the recording, decision support, communication and analysis of pathology laboratory reports.
- WG member A/Prof Magrabi is collaborating with Canada's Health Informatics Association-COACH. She was invited to give the opening keynote address at Canada's inaugural *National Summit on the Safety of Health IT* in October 2015. She also gave a webinar to the Ontario eSafety Working Group on *Understanding and prioritizing eSafety* issues in January 2016.

- WG member Dr Hyppönen is leading the Nordic eHealth research network under the Nordic Council of Ministers, collaborating with the OECD and WHO in developing and testing eHealth indicators.
- Members of the Working Group have (in association with several IMIA WGs) contributed to the organization of the Context Sensitive Health Informatics satellite conference at Medinfo 2015 in Brazil.
- WG members Prof. Talmon and A/Prof Magrabi are serving as guest editors for a special focus issue of *Journal of the American Medical Informatics Association* on the Safety of Health IT. Submissions closed on 15 June and publication is expected in late 2016.
- The working group continues its close collaboration with the EFMI Working Group on Evaluation, through joint publications, webinars, workshops and tutorials at international conferences. The working group also started to discuss closer collaboration with the AMIA Working Group on Evaluation.
- The web-based health IT Evaluation Inventory has continued to be updated and expanded. It now comprises around 1,819 abstracts of evaluation papers in health informatics. It allows researchers from all over the world to submit papers for inclusions. The Evaluation Inventory database is available for free at <http://evaldb.umat.ac>.

#### 4. Outreach

- During 2015-2016 the WG continued to expand its network and the scope of its work. In the course of this year the WG has established strong connections with the **Australian College of Health Informatics**, the **Indian Association of Medical Informatics** and **Asia Pacific Association of Medical Informatics**.
- During 2015-2016 the WG made important representations and initiated discussions with key World Health Organization representatives with the aim of contributing to the joint **IMIA-WHO collaboration plan on evaluation**.
- The Working Group has established connections with the **Cochrane Collaboration** through Chris Mavergames, Head of Informatics and Knowledge Management on the Cochrane Central Executive. This collaboration is aiming to build common ground in pursuance of evidence-based health informatics.

#### 5. Collaboration

- The working group continues its close collaboration with the **EFMI Working Group on Evaluation**, through joint publications, webinars, workshops and tutorials at international conferences. The working group also started to discuss closer collaboration with the **AMIA Working Group on Evaluation**.
- The working group has maintained a strong level of collaboration with the **AMIA Evaluation Working Group**, as evidenced by collaborative efforts.

**Working Group meetings (minuted teleconference and business meetings)**

18 July 2015 (Teleconference)

5 October 2015 (Teleconference)

2 March 2016 (Teleconference)

8 June 2016 (Teleconference)